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LSR-Leptin Interaction and Their Use in the Prevention  
and Treatment of Obesity-Related Diseases

<130> 70.WO1

<150> 60/155,506

<151> 1999-09-22

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Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn Pro Tyr His Val	
85 90 95 100	
gtg atc ctc ttc cag cct gtg acc ctg ccc tgt acc tac cag atg acc	451
Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Thr	
105 110 115	
tcg acc ccc acg caa ccc atc gtc atc tgg aag tac aag tct ttc tgc	499
Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys	
120 125 130	
cgg gac cgc atc gcc gat gcc ttc tcc ccg gcc agc gtc gac aac cag	547
Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln	
135 140 145	
ctc aat gcc cag ctg gca gcc ggg aac cca ggc tac aac ccc tac gty	595
Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val	
150 155 160	
gag tgc cag gac agc gtg cgc acc gtc agg gtc gtg gcc acc aag cag	643
Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln	
165 170 175 180	
ggc aac gct gtg acc ctg gga gat tac tac cag ggc cgg agg att acc	691
Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr	
185 190 195	
atc acc gga aat gct gac ctg acc ttt gac cag acg gcg tgg ggg gac	739
Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr Ala Trp Gly Asp	
200 205 210	
agt ggt gtg tat tac tgc tcc gtg gtc tca gcc cag gac ctc cag ggg	787
Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Gln Gly	
215 220 225	
aac aat gag gcc tac gca gag ctc atc gtc ctt ggg agg acc tca ggg	835
Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Gly Arg Thr Ser Gly	
230 235 240	
gtg gct gag ctc tta cct ggt ttt cag gcg ggg ccc ata gaa gac tgg	883
Val Ala Glu Leu Leu Pro Gly Phe Gln Ala Gly Pro Ile Glu Asp Trp	
245 250 255 260	
ctc ttc gtg gtt gtg gta tgc ctg gct gcc ttc ctc atc ttc ctc ctc	931
Leu Phe Val Val Val Val Cys Leu Ala Ala Phe Leu Ile Phe Leu Leu	
265 270 275	
ctg ggc aty tgc tgg tgc cag tgc tgc ccg cac act tgc tgc tgc tac	979
Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys Tyr	
280 285 290	
gtc agg tgc ccc tgc tgc cca gac aag tgc tgc tgc ccc gag gcc ctg	1027
Val Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala Leu	
295 300 305	
tat gcc gcc ggc aaa gca gcc acc tca ggt gtt ccc agc att tat gcc	1075
Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala	
310 315 320	
ccc agc acc tat gcc cac ctg tct ccc gcc aag acc cca ccc cca cca	1123
Pro Ser Thr Tyr Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro	
325 330 335 340	

gct atg att ccc atg ggc cct gcc tac aac ggg tac cct gga gga tac	1171
Ala Met Ile Pro Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly Tyr	
345 350 355	
cct gga gac gtt gac agg art agc tca gct ggt ggc caa ggc tcc tat	1219
Pro Gly Asp Val Asp Arg Xaa Ser Ser Ala Gly Gly Gln Gly Ser Tyr	
360 365 370	
gta ccc ctg ctt cgg gac acg gac agc agt gtg gcc tct gaa gtc cgc	1267
Val Pro Leu Leu Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val Arg	
375 380 385	
agt ggc tac agg att cag gcc agc cag cag gac gac tcc atg cgg gtc	1315
Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg Val	
390 395 400	
ctg tac tac atg gag aag gag ctg gcc aac ttc gac cct tct cga cst	1363
Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Xaa	
405 410 415 420	
ggc ccc ccc agt ggc cgt gtg gag cgg gcc atg agt gaa gtc acc tcc	1411
Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser	
425 430 435	
ctc cac gag gac gac tgg cga tct cgg cct tcc cgg ggc cct gcc ctc	1459
Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu	
440 445 450	
acc ccg atc cgg gat gag gag tgg ggt ggc cac tcc ccc cgg agt ccc	1507
Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro	
455 460 465	
agg gga tgg gac cag gag ccc gcc agg gag cag gca ggc ggg ggc tgg	1555
Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly Trp	
470 475 480	
cgg gcc agg cgg ccc cgg gcc cgc tcc gtg gac gcc ctg gac gac ctc	1603
Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu	
485 490 495 500	
acc ccg ccg agc acc gcc gag tca ggg agc agg tct ccc acg agt aat	1651
Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn	
505 510 515	
ggt ggg aga agc cgg gcc tac atg ccc ccg cgg agc cgc agc cgg gac	1699
Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp	
520 525 530	
gac ctc tat gac caa gac gac tcg agg gac ttc cca cgc tcc cgg gac	1747
Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp	
535 540 545	
ccc cac tac gac gac ttc agg tct cgg gag cgc cct cct gcc gac ccc	1795
Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro	
550 555 560	
agg tcc cac cac cac cgt acc cgg gac cct cgg gac aac ggc tcc agg	1843
Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg	
565 570 575 580	
tcc ggg gac ctc ccc tat gat ggg cgg cta ctg gag gag gct gtg agg	1891
Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg	
585 590 595	
aag aag ggg tcg gag gag agg agg aga ccc cac aag gag gag gag gaa	1939
Lys Lys Gly Ser Glu Glu Arg Arg Arg Pro His Lys Glu Glu Glu Glu	
600 605 610	
gag gcc tac tac ccg ccc gcg ccg ccc ccg tac tcg gag acc gac tcg	1987
Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser	
615 620 625	
cag gcg tcc cga gag cgc agg ctc aag aag aac ttg gcc ctg agt cgg	2035
Gln Ala Ser Arg Glu Arg Ala Leu Lys Lys Asn Leu Ala Leu Ser Arg	
630 635 640	
gaa agt tta gtc gtc tga tctgacgttt tctacgtagc ttttgkattt	2083
Glu Ser Leu Val Val *	
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aacgtataat cacaa	2158

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<220>  
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 <222> 363  
 <223> 9-7-325 : polymorphic amino acid Ser or Asn

<220>  
 <221> VARIANT  
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 <223> 9-9-246 : polymorphic amino acid Pro or Arg

<220>  
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 <222> 519  
 <223> LSRX9f13-BM : polymorphic amino acid deletion of Arg

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 35 40 45  
 Met Ala Leu Leu Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro  
 50 55 60  
 Ala Ala Ala Gly Arg Asp Ala Val Val Phe Val Trp Leu Leu Leu Ser  
 65 70 75 80  
 Thr Trp Cys Thr Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn  
 85 90 95  
 Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr  
 100 105 110  
 Tyr Gln Met Thr Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr  
 115 120 125  
 Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser  
 130 135 140  
 Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr  
 145 150 155 160  
 Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val  
 165 170 175  
 Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly  
 180 185 190  
 Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr  
 195 200 205  
 Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln  
 210 215 220  
 Asp Leu Gln Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Gly  
 225 230 235 240  
 Arg Thr Ser Gly Val Ala Glu Leu Leu Pro Gly Phe Gln Ala Gly Pro  
 245 250 255  
 Ile Glu Asp Trp Leu Phe Val Val Val Val Cys Leu Ala Ala Phe Leu  
 260 265 270  
 Ile Phe Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr  
 275 280 285  
 Cys Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Cys  
 290 295 300  
 Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro  
 305 310 315 320  
 Ser Ile Tyr Ala Pro Ser Thr Tyr Ala His Leu Ser Pro Ala Lys Thr  
 325 330 335

Pro Pro Pro Pro Ala Met Ile Pro Met Gly Pro Ala Tyr Asn Gly Tyr  
                   340                  345                  350  
 Pro Gly Gly Tyr Pro Gly Asp Val Asp Arg Ser Ser Ser Ala Gly Gly  
                   355                  360                  365  
 Gln Gly Ser Tyr Val Pro Leu Leu Arg Asp Thr Asp Ser Ser Val Ala  
                   370                  375                  380  
 Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln Asp Asp  
 385                  390                  395                  400  
 Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp  
                   405                  410                  415  
 Pro Ser Arg Pro Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser  
                   420                  425                  430  
 Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg  
                   435                  440                  445  
 Gly Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser  
                   450                  455                  460  
 Pro Arg Ser Pro Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala  
 465                  470                  475                  480  
 Gly Gly Gly Trp Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala  
                   485                  490                  495  
 Leu Asp Asp Leu Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser  
                   500                  505                  510  
 Pro Thr Ser Asn Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser  
                   515                  520                  525  
 Arg Ser Arg Asp Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro  
                   530                  535                  540  
 Arg Ser Arg Asp Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro  
 545                  550                  555                  560  
 Pro Ala Asp Pro Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp  
                   565                  570                  575  
 Asn Gly Ser Arg Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu  
                   580                  585                  590  
 Glu Ala Val Arg Lys Lys Gly Ser Glu Glu Arg Arg Arg Pro His Lys  
                   595                  600                  605  
 Glu Glu Glu Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser  
                   610                  615                  620  
 Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu  
 625                  630                  635                  640  
 Ala Leu Ser Arg Glu Ser Leu Val Val  
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<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 595

<223> 9-3-324 : polymorphic base C or T

<220>

<221> allele

<222> 883

<223> 9-6-187 : polymorphic base C or T

<220>

<221> allele

<222> 1134

<223> 9-7-325 : polymorphic base A or G

<220>

<221> allele

<222> 1305  
 <223> 9-9-246 : polymorphic base G or C  
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 <222> 1601  
 <223> LSRX9f13-BM : polymorphic base deletion of AGG  
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 <222> 2022  
 <223> LSRX9f14-BM : polymorphic base T or G

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 Met Gln Gln Asp  
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 gga ctt gga gta ggg aca agg aac gga agt ggg aag ggg agg agc gtg 163  
 Gly Leu Gly Val Gly Thr Arg Asn Gly Ser Gly Lys Gly Arg Ser Val  
 5 10 15 20  
 cac ccc tcc tgg cct tgg tgc gcg ccg cgc ccc cta agg tac ttt gga 211  
 His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu Arg Tyr Phe Gly  
 25 30 35  
 agg gac gcg cgg gcc aga cgc gcc cag acg gcc gcg atg gcg ctg ttg 259  
 Arg Asp Ala Arg Ala Arg Arg Ala Gln Thr Ala Ala Met Ala Leu Leu  
 40 45 50  
 gcc ggc ggg ctc tcc aga ggg ctg ggc tcc cac ccg gcc gcc gca ggc 307  
 Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro Ala Ala Ala Gly  
 55 60 65  
 cgg gac gcg gtc gtc ttc gtg tgg ctt ctg ctt agc acc tgg tgc aca 355  
 Arg Asp Ala Val Val Phe Val Trp Leu Leu Leu Ser Thr Trp Cys Thr  
 70 75 80  
 gct cct gcc agg gcc atc cag gtg acc gtg tcc aac ccc tac cac gtg 403  
 Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn Pro Tyr His Val  
 85 90 95 100  
 gtg atc ctc ttc cag cct gtg acc ctg ccc tgt acc tac cag atg acc 451  
 Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Thr  
 105 110 115  
 tcg acc ccc acg caa ccc atc gtc atc tgg aag tac aag tct ttc tgc 499  
 Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys  
 120 125 130  
 cgg gac cgc atc gcc gat gcc ttc tcc ccg gcc agc gtc gac aac cag 547  
 Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln  
 135 140 145  
 ctc aat gcc cag ctg gca gcc ggg aac cca ggc tac aac ccc tac gty 595  
 Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val  
 150 155 160  
 gag tgc cag gac agc gtg cgc acc gtc agg gtc gtg gcc acc aag cag 643  
 Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Ala Thr Lys Gln  
 165 170 175 180  
 ggc aac gct gtg acc ctg gga gat tac tac cag ggc cgg agg att acc 691  
 Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr  
 185 190 195  
 atc acc gga aat gct gac ctg acc ttt gac cag acg gcg tgg ggg gac 739  
 Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr Ala Trp Gly Asp  
 200 205 210  
 agt ggt gtg tat tac tgc tcc gtg gtc tca gcc cag gac ctc cag ggg 787  
 Ser Gly Val Tyr Tyr Cys Ser Val Ser Ala Gln Asp Leu Gln Gly  
 215 220 225  
 aac aat gag gcc tac gca gag ctc atc gtc ctt gac tgg ctc ttc gtg 835  
 Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp Trp Leu Phe Val  
 230 235 240

gtt gtt gta tgc ctg gct gcc ttc ctc atc ttc ctc ctc ctg ggc aty	883
Val Val Val Cys Leu Ala Ala Phe Leu Ile Phe Leu Leu Leu Gly Ile	
245 250 255 260	
tgc tgg tgc cag tgc tgc ccg cac act tgc tgc tgc tac gtc agg tgc	931
Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Tyr Val Arg Cys	
265 270 275	
ccc tgc tgc cca gac aag tgc tgc tgc ccc gag gcc ctg tat gcc gcc	979
Pro Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala Leu Tyr Ala Ala	
280 285 290	
ggc aaa gca gcc acc tca ggt gtt ccc agc att tat gcc ccc agc acc	1027
Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Thr	
295 300 305	
tat gcc cac ctg tct ccc gcc aag acc cca ccc cca cca gct atg att	1075
Tyr Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Ala Met Ile	
310 315 320	
ccc atg ggc cct gcc tac aac ggg tac cct gga gga tac cct gga gac	1123
Pro Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly Tyr Pro Gly Asp	
325 330 335 340	
gtt gac agg art agc tca gct ggt ggc caa ggc tcc tat gta ccc ctg	1171
Val Asp Arg Xaa Ser Ser Ala Gly Gly Gln Gly Ser Tyr Val Pro Leu	
345 350 355	
ctt cgg gac acg gac agc agt gtg gcc tct gaa gtc cgc agt ggc tac	1219
Leu Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val Arg Ser Gly Tyr	
360 365 370	
agg att cag gcc agc cag cag gac gac tcc atg cgg gtc ctg tac tac	1267
Arg Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr	
375 380 385	
atg gag aag gag ctg gcc aac ttc gac cct tct cga cst ggc ccc ccc	1315
Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Xaa Gly Pro Pro	
390 395 400	
agt ggc cgt gtg gag cgg gcc atg agt gaa gtc acc tcc ctc cac gag	1363
Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His Glu	
405 410 415 420	
gac gac tgg cga tct cgg cct tcc cgg ggc cct gcc ctc acc ccg atc	1411
Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu Thr Pro Ile	
425 430 435	
cgg gat gag gag tgg ggt ggc cac tcc ccc cgg agt ccc agg gga tgg	1459
Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro Arg Gly Trp	
440 445 450	
gac cag gag ccc gcc agg gag cag gca ggc ggg ggc tgg cgg gcc agg	1507
Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly Trp Arg Ala Arg	
455 460 465	
cgg ccc cgg gcc cgc tcc gtg gac gcc ctg gac gac ctc acc ccg ccg	1555
Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu Thr Pro Pro	
470 475 480	
agc acc gcc gag tca ggg agc agg tct ccc acg agt aat ggt ggg aga	1603
Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn Gly Gly Arg	
485 490 495 500	
agc cgg gcc tac atg ccc ccg cgg agc cgc agc cgg gac gac ctc tat	1651
Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr	
505 510 515	
gac caa gac gac tcc agg gac ttc cca cgc tcc cgg gac ccc cac tac	1699
Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp Pro His Tyr	
520 525 530	
gac gac ttc agg tct cgg gag cgc cct cct gcc gac ccc agg tcc cac	1747
Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro Arg Ser His	
535 540 545	
cac cac cgt acc cgg gac cct cgg gac aac ggc tcc agg tcc ggg gac	1795
His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg Ser Gly Asp	
550 555 560	
ctc ccc tat gat ggg cgg cta ctg gag gag gct gtg agg aag aag ggg	1843
Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg Lys Lys Gly	
565 570 575 580	

tcg gag gag agg agg aga ccc cac aag gag gag gag gaa gag gcc tac	1891
Ser Glu Glu Arg Arg Arg Pro His Lys Glu Glu Glu Glu Glu Ala Tyr	
585 590 595	
tac ccg ccc gcg ccg ccc ccg tac tcg gag acc gac tcg cag gcg tcc	1939
Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser	
600 605 610	
cga gag cgc agg ctc aag aag aac ttg gcc ctg agt cgg gaa agt tta	1987
Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu	
615 620 625	
gtc gtc tga tctgacgttt tctacgtagc ttttgkattt ttttttttaa	2036
Val Val *	
630	
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cacaa	2101

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<220>  
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 <222> 344  
 <223> 9-7-325 : polymorphic amino acid Ser or Asn

<220>  
 <221> VARIANT  
 <222> 401  
 <223> 9-9-246 : polymorphic amino acid Pro or Arg

<220>  
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 <223> LSRX9f13-BM : polymorphic amino acid deletion of Arg

<400> 5

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			20					25					30		
Arg	Tyr	Phe	Gly	Arg	Asp	Ala	Arg	Ala	Arg	Arg	Ala	Gln	Thr	Ala	Ala
		35					40						45		
Met	Ala	Leu	Leu	Ala	Gly	Gly	Leu	Ser	Arg	Gly	Leu	Gly	Ser	His	Pro
		50				55					60				
Ala	Ala	Ala	Gly	Arg	Asp	Ala	Val	Val	Phe	Val	Trp	Leu	Leu	Leu	Ser
65					70					75					80
Thr	Trp	Cys	Thr	Ala	Pro	Ala	Arg	Ala	Ile	Gln	Val	Thr	Val	Ser	Asn
				85					90					95	
Pro	Tyr	His	Val	Val	Ile	Leu	Phe	Gln	Pro	Val	Thr	Leu	Pro	Cys	Thr
			100					105					110		
Tyr	Gln	Met	Thr	Ser	Thr	Pro	Thr	Gln	Pro	Ile	Val	Ile	Trp	Lys	Tyr
		115					120					125			
Lys	Ser	Phe	Cys	Arg	Asp	Arg	Ile	Ala	Asp	Ala	Phe	Ser	Pro	Ala	Ser
		130				135					140				
Val	Asp	Asn	Gln	Leu	Asn	Ala	Gln	Leu	Ala	Ala	Gly	Asn	Pro	Gly	Tyr
145					150					155					160
Asn	Pro	Tyr	Val	Glu	Cys	Gln	Asp	Ser	Val	Arg	Thr	Val	Arg	Val	Val
				165					170					175	
Ala	Thr	Lys	Gln	Gly	Asn	Ala	Val	Thr	Leu	Gly	Asp	Tyr	Tyr	Gln	Gly
			180					185					190		
Arg	Arg	Ile	Thr	Ile	Thr	Gly	Asn	Ala	Asp	Leu	Thr	Phe	Asp	Gln	Thr
		195					200						205		
Ala	Trp	Gly	Asp	Ser	Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser	Ala	Gln

210	215	220
Asp Leu Gln Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp		
225	230	235
Trp Leu Phe Val Val Val Val Cys Leu Ala Phe Leu Ile Phe Leu		240
	245	250
Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys		255
	260	265
Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala		270
	275	280
Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr		285
	290	295
Ala Pro Ser Thr Tyr Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro		300
305	310	315
Pro Ala Met Ile Pro Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly		320
	325	330
Tyr Pro Gly Asp Val Asp Arg Ser Ser Ser Ala Gly Gly Gln Gly Ser		335
	340	345
Tyr Val Pro Leu Leu Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val		350
	355	360
Arg Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg		365
	370	375
Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg		380
385	390	395
Pro Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr		400
	405	410
Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala		415
	420	425
Leu Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser		430
	435	440
Pro Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly		445
	450	455
Trp Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp		460
465	470	475
Leu Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser		480
	485	490
Asn Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg		495
	500	505
Asp Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg		510
	515	520
Asp Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp		525
	530	535
Pro Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser		540
545	550	555
Arg Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val		560
	565	570
Arg Lys Lys Gly Ser Glu Glu Arg Arg Arg Pro His Lys Glu Glu Glu		575
	580	585
Glu Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp		590
	595	600
Ser Gln Ala Ser Arg Glu Arg Glu Leu Lys Lys Asn Leu Ala Leu Ser		605
	610	615
Arg Glu Ser Leu Val Val		620
625	630	

<210> 6

<211> 1954

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 595

<223> 9-3-324 : polymorphic base C or T



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<220>
<221> allele
<222> 987
<223> 9-7-325 : polymorphic base A or G

<220>
<221> allele
<222> 1158
<223> 9-9-246 : polymorphic base G or C

<220>
<221> allele
<222> 1454
<223> LSRX9f13-BM : polymorphic base deletion of AGG

<220>
<221> allele
<222> 1875
<223> LSRX9f14-BM : polymorphic base T or G

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                                     Met Gln Gln Asp
                                     1

gga ctt gga gta ggg aca agg aac gga agt ggg aag ggg agg agc gtg 163
Gly Leu Gly Val Gly Thr Arg Asn Gly Ser Gly Lys Gly Arg Ser Val
5 10 15 20
cac ccc tcc tgg cct tgg tgc gcg ccg cgc ccc cta agg tac ttt gga 211
His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu Arg Tyr Phe Gly
25 30 35
agg gac gcg cgg gcc aga cgc gcc cag acg gcc gcg atg gcg ctg ttg 259
Arg Asp Ala Arg Ala Arg Arg Ala Gln Thr Ala Ala Met Ala Leu Leu
40 45 50
gcc ggc ggg ctc tcc aga ggg ctg ggc tcc cac ccg gcc gcc gca ggc 307
Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro Ala Ala Ala Gly
55 60 65
cgg gac gcg gtc gtc ttc gtg tgg ctt ctg ctt agc acc tgg tgc aca 355
Arg Asp Ala Val Val Phe Val Trp Leu Leu Leu Ser Thr Trp Cys Thr
70 75 80
gct cct gcc agg gcc atc cag gtg acc gtg tcc aac ccc tac cac gtg 403
Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn Pro Tyr His Val
85 90 95 100
gtg atc ctc ttc cag cct gtg acc ctg ccc tgt acc tac cag atg acc 451
Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Thr
105 110 115
tcg acc ccc acg caa ccc atc gtc atc tgg aag tac aag tct ttc tgc 499
Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys
120 125 130
cgg gac cgc atc gcc gat gcc ttc tcc ccg gcc agc gtc gac aac cag 547
Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln
135 140 145
ctc aat gcc cag ctg gca gcc ggg aac cca ggc tac aac ccc tac gty 595
Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val
150 155 160
gag tgc cag gac agc gtg cgc acc gtc agg gtc gtg gcc acc aag cag 643
Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln
165 170 175 180
ggc aac gct gtg acc ctg gga gat tac tac cag ggc cgg agg att acc 691
Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr
185 190 195
atc acc gga aat gct gac ctg acc ttt gac cag acg gcg tgg ggg gac 739

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Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr Ala Trp Gly Asp	
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agt ggt gtg tat tac tgc tcc gtg gtc tca gcc cag gac ctc cag ggg	787
Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Gln Gly	
215 220 225	
aac aat gag gcc tac gca gag atc gtc ctt gtg tat gcc gcc ggc	835
Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Val Tyr Ala Ala Gly	
230 235 240	
aaa gca gcc acc tca ggt gtt ccc agc att tat gcc ccc agc acc tat	883
Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Thr Tyr	
245 250 255 260	
gcc cac ctg tct ccc gcc aag acc cca ccc cca cca gct atg att ccc	931
Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Ala Met Ile Pro	
265 270 275	
atg ggc cct gcc tac aac ggg tac cct gga gga tac cct gga gac gtt	979
Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly Tyr Pro Gly Asp Val	
280 285 290	
gac agg art agc tca gct ggt ggc caa ggc tcc tat gta ccc ctg ctt	1027
Asp Arg Xaa Ser Ser Ala Gly Gly Gln Gly Ser Tyr Val Pro Leu Leu	
295 300 305	
cgg gac acg gac agc agt gtg gcc tct gaa gtc cgc agt ggc tac agg	1075
Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val Arg Ser Gly Tyr Arg	
310 315 320	
att cag gcc agc cag cag gac gac tcc atg cgg gtc ctg tac tac atg	1123
Ile Gln Ala Ser Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met	
325 330 335 340	
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Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Xaa Gly Pro Pro Ser	
345 350 355	
ggc cgt gtg gag cgg gcc atg agt gaa gtc acc tcc ctc cac gag gac	1219
Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp	
360 365 370	
gac tgg cga tct cgg cct tcc cgg ggc cct gcc ctc acc ccg atc cgg	1267
Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu Thr Pro Ile Arg	
375 380 385	
gat gag gag tgg ggt ggc cac tcc ccc cgg agt ccc agg gga tgg gac	1315
Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro Arg Gly Trp Asp	
390 395 400	
cag gag ccc gcc agg gag cag gca ggc ggg ggc tgg cgg gcc agg cgg	1363
Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly Trp Arg Ala Arg Arg	
405 410 415 420	
ccc cgg gcc cgc tcc gtg gac gcc ctg gac gac ctc acc ccg ccg agc	1411
Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu Thr Pro Pro Ser	
425 430 435	
acc gcc gag tca ggg agc agg tct ccc acg agt aat ggt ggg aga agc	1459
Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn Gly Gly Arg Ser	
440 445 450	
cgg gcc tac atg ccc ccg cgg agc cgc agc cgg gac gac ctc tat gac	1507
Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp	
455 460 465	
caa gac gac tcg agg gac ttc cca cgc tcc cgg gac ccc cac tac gac	1555
Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp Pro His Tyr Asp	
470 475 480	
gac ttc agg tct cgg gag cgc cct cct gcc gac ccc agg tcc cac cac	1603
Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro Arg Ser His His	
485 490 495 500	
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His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg Ser Gly Asp Leu	
505 510 515	
ccc tat gat ggg cgg cta ctg gag gag gct gtg agg aag aag ggg tcg	1699
Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg Lys Lys Gly Ser	
520 525 530	
gag gag agg agg aga ccc cac aag gag gag gag gaa gag gcc tac tac	1747

Glu	Glu	Arg	Arg	Arg	Pro	His	Lys	Glu	Glu	Glu	Glu	Glu	Ala	Tyr	Tyr		
		535					540					545					
ccg	ccc	gcg	ccg	ccc	ccg	tac	tcg	gag	acc	gac	tcg	cag	gcg	tcc	cga	1795	
Pro	Pro	Ala	Pro	Pro	Pro	Tyr	Ser	Glu	Thr	Asp	Ser	Gln	Ala	Ser	Arg		
	550					555					560						
gag	cgc	agg	ctc	aag	aag	aac	ttg	gcc	ctg	agt	cgg	gaa	agt	tta	gtc	1843	
Glu	Arg	Arg	Leu	Lys	Lys	Asn	Leu	Ala	Leu	Ser	Arg	Glu	Ser	Leu	Val		
	565				570					575					580		
gtc	tga	tctgacgttt	tctacgtacg	ttttgkattt	tttttttttaa	tttgaaggaa	1899										
Val	*																
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<210> 7  
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 <212> PRT  
 <213> Homo sapiens

<220>  
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 <223> 9-7-325 : polymorphic amino acid Ser or Asn

<220>  
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 <223> 9-9-246 : polymorphic amino acid Pro or Arg

<220>  
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 <223> LSRX9f13-BM : polymorphic amino acid deletion of Arg

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			20					25					30				
Arg	Tyr	Phe	Gly	Arg	Asp	Ala	Arg	Ala	Arg	Arg	Ala	Gln	Thr	Ala	Ala		
		35				40					45						
Met	Ala	Leu	Leu	Ala	Gly	Gly	Leu	Ser	Arg	Gly	Leu	Gly	Ser	His	Pro		
	50				55						60						
Ala	Ala	Ala	Gly	Arg	Asp	Ala	Val	Val	Phe	Val	Trp	Leu	Leu	Leu	Ser		
65				70					75					80			
Thr	Trp	Cys	Thr	Ala	Pro	Ala	Arg	Ala	Ile	Gln	Val	Thr	Val	Ser	Asn		
			85					90					95				
Pro	Tyr	His	Val	Val	Ile	Leu	Phe	Gln	Pro	Val	Thr	Leu	Pro	Cys	Thr		
			100					105					110				
Tyr	Gln	Met	Thr	Ser	Thr	Pro	Thr	Gln	Pro	Ile	Val	Ile	Trp	Lys	Tyr		
	115					120						125					
Lys	Ser	Phe	Cys	Arg	Asp	Arg	Ile	Ala	Asp	Ala	Phe	Ser	Pro	Ala	Ser		
	130				135						140						
Val	Asp	Asn	Gln	Leu	Asn	Ala	Gln	Leu	Ala	Ala	Gly	Asn	Pro	Gly	Tyr		
145				150					155					160			
Asn	Pro	Tyr	Val	Glu	Cys	Gln	Asp	Ser	Val	Arg	Thr	Val	Arg	Val	Val		
			165					170					175				
Ala	Thr	Lys	Gln	Gly	Asn	Ala	Val	Thr	Leu	Gly	Asp	Tyr	Tyr	Gln	Gly		
			180					185					190				
Arg	Arg	Ile	Thr	Ile	Thr	Gly	Asn	Ala	Asp	Leu	Thr	Phe	Asp	Gln	Thr		
	195					200						205					
Ala	Trp	Gly	Asp	Ser	Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser	Ala	Gln		
	210				215						220						
Asp	Leu	Gln	Gly	Asn	Asn	Glu	Ala	Tyr	Ala	Glu	Leu	Ile	Val	Leu	Val		
225				230						235				240			

Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala  
 245 250 255  
 Pro Ser Thr Tyr Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro  
 260 265 270  
 Ala Met Ile Pro Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly Tyr  
 275 280 285  
 Pro Gly Asp Val Asp Arg Ser Ser Ser Ala Gly Gly Gln Gly Ser Tyr  
 290 295 300  
 Val Pro Leu Leu Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val Arg  
 305 310 315 320  
 Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg Val  
 325 330 335  
 Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Pro  
 340 345 350  
 Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser  
 355 360 365  
 Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu  
 370 375 380  
 Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro  
 385 390 395 400  
 Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly Trp  
 405 410 415  
 Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu  
 420 425 430  
 Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn  
 435 440 445  
 Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp  
 450 455 460  
 Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp  
 465 470 475 480  
 Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro  
 485 490 495  
 Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg  
 500 505 510  
 Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg  
 515 520 525  
 Lys Lys Gly Ser Glu Glu Arg Arg Arg Pro His Lys Glu Glu Glu Glu  
 530 535 540  
 Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser  
 545 550 555 560  
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 565 570 575  
 Glu Ser Leu Val Val  
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<210> 8

<211> 2097

<212> DNA

<213> Rattus norvegicus

<400> 8

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agcacgcacc	cttctccgcc	ttggttctcg	ccgcgcccc	tactctcggg	atacttgga	180
ggggacgcgc	gggcaccgtc	gctgctagac	ggccgcg	atg gcg ccg gcg gcc ggc		235
			Met Ala Pro Ala Ala Gly			
			1	5		
gcg tgt gct	ggg gcg cct	gac tcc	cac cca gct	acc gtg gtc	ttc gtg	283
Ala Cys Ala	Gly Ala Pro	Asp Ser	His Pro Ala	Thr Val Val	Phe Val	
	10		15	20		
tgt ctc ttt	ctc atc att	ttc tgc	cca gac cct	gcc agt gcc	atc cag	331
Cys Leu Phe	Leu Ile Ile	Phe Cys	Pro Asp Pro	Ala Ser Ala	Ile Gln	
	25	30		35		

gtg act gtg tct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg	379
Val Thr Val Ser Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val	
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acc ctg ccc tgc acc tat cag atg agc aac act ctc aca gtc ccc atc	427
Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Val Pro Ile	
55 60 65 70	
gtg atc tgg aag tac aag tca ttc tgc cgg gac cgt att gcc gat gcc	475
Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala	
75 80 85	
ttc tct cct gcc agt gtg gac aac cag cta aat gcc cag ttg gca gct	523
Phe Ser Pro Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala	
90 95 100	
ggc aac ccc ggc tac aac ccc tat gtg gag tgc cag gac agt gta cgc	571
Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg	
105 110 115	
act gtc agg gtg gtg gcc acc aaa cag ggc aat gcg gtg acc ctg gga	619
Thr Val Arg Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly	
120 125 130	
gac tac tac caa ggc agg agg atc acc ata aca gga aat gct gac ctg	667
Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu	
135 140 145 150	
acc ttc gag cag aca gcc tgg gga gac agt gga gtg tat tac tgc tct	715
Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser	
155 160 165	
gtg gtc tcg gcc caa gat ctg gat gga aac aac gag gcg tac gca gag	763
Val Val Ser Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu	
170 175 180	
ctc atc gtc ctt ggc agg acc tca gag gcc cct gag ctc cta cct ggt	811
Leu Ile Val Leu Gly Arg Thr Ser Glu Ala Pro Glu Leu Leu Pro Gly	
185 190 195	
ttt cgg gcg ggg ccc ttg gaa gat tgg ctc ttt gtg gtc gtg gtc tgc	859
Phe Arg Ala Gly Pro Leu Glu Asp Trp Leu Phe Val Val Val Cys	
200 205 210	
ctg gcg agc ctc ctc ctc ttc ctc ctc ctg ggc atc tgc tgg tgc cag	907
Leu Ala Ser Leu Leu Leu Phe Leu Leu Leu Gly Ile Cys Trp Cys Gln	
215 220 225 230	
tgc tgt cct cac acc tgc tgc tgc tat gtc cga tgt ccc tgc tgc cca	955
Cys Cys Pro His Thr Cys Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro	
235 240 245	
gac aag tgc tgt tgc cct gag gct ctt tat gct gct ggc aaa gca gcc	1003
Asp Lys Cys Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala	
250 255 260	
acc tca ggt gtc ccg agc atc tat gcc ccc agc atc tat acc cac ctc	1051
Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu	
265 270 275	
tca cct gcc aag acc cca cca cct ccg cct gcc atg att ccc atg ggc	1099
Ser Pro Ala Lys Thr Pro Pro Pro Pro Pro Ala Met Ile Pro Met Gly	
280 285 290	
cct ccc tat ggg tac cct gga gac ttt gac aga cat agc tca gtt ggt	1147
Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp Arg His Ser Ser Val Gly	
295 300 305 310	
ggc cac agc tcc caa gta ccc ctg ctg cgt gac gtg gat ggc agt gta	1195
Gly His Ser Ser Gln Val Pro Leu Leu Arg Asp Val Asp Gly Ser Val	
315 320 325	
tct tca gaa gta cga agt ggc tac agg atc cag gct aac cag caa gat	1243
Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln Gln Asp	
330 335 340	
gac tcc atg agg gtc cta tac tat atg gag aaa gag cta gcc aac ttt	1291
Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe	
345 350 355	
gac cct tcc cga cct ggc cct ccc aat ggc aga gtg gaa cgg gcc atg	1339
Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met	
360 365 370	

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agt gaa gta acc tcc ctc cat gaa gat gac tgg cga tcg agg cct tcc      1387
Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser
375                      380                      385                      390
agg gct cct gcc ctc acc ccc atc agg gat gag gag tgg aat cgc cac      1435
Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His
                      395                      400                      405
tcc cca cag agt ccc aga aca tgg gag cag gaa ccc ctt caa gaa caa      1483
Ser Pro Gln Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln
                      410                      415                      420
cca agg ggt ggt tgg ggg tct gga cgc cct cgg gcc cgc tct gtg gat      1531
Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp
                      425                      430                      435
gct cta gat gat atc aac cgg cct ggc tcc act gaa tca gga cgg tct      1579
Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser
                      440                      445                      450
tct ccc cca agt agt gga cgg aga gga cgg gcc tat gca cct cca aga      1627
Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg
455                      460                      465                      470
agt cgc agc cgg gat gac ctc tat gac ccg gac gat cct agg gac ttg      1675
Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu
                      475                      480                      485
cca cat tcc cga gat ccc cac tat tat gac gac atc agg tct aga gat      1723
Pro His Ser Arg Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser Arg Asp
                      490                      495                      500
cca cgt gct gac ccc aga tcc cgt cag cga tcc cga gat cct cgg gat      1771
Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro Arg Asp
505                      510                      515
gct ggc ttc agg tca agg gac cct cag tat gat ggg cga cta tta gaa      1819
Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu
520                      525                      530
gag gct tta aag aaa aag ggg tcg ggc gag aga agg agg gtt tac agg      1867
Glu Ala Leu Lys Lys Lys Gly Ser Gly Glu Arg Arg Arg Val Tyr Arg
535                      540                      545                      550
gag gaa gaa gag gaa gag gag ggc caa tac ccc cca gca cct cca cct      1915
Glu Glu Glu Glu Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro Pro Pro
555                      560                      565
tac tca gag act gac tcg cag gcc tca cgg gag agg agg ctg aaa aag      1963
Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys
570                      575                      580
aat ttg gcc ctg agt cgg gaa agt tta gtc gtc tga tccacgtttt      2009
Asn Leu Ala Leu Ser Arg Glu Ser Leu Val Val *
585                      590
gtatgtagct tttgtacttt ttttttaatt ggaatcaata ttgatgaaac ttcaagccta      2069
ataaaatgtc taatcacaaa aaaaaaaaaa      2097

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<210> 9  
 <211> 593  
 <212> PRT  
 <213> Rattus norvegicus

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20                      25                      30
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35                      40                      45
Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn
50                      55                      60
Thr Leu Thr Val Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg
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Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu
85                      90                      95

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<210> 10  
 <211> 2040  
 <212> DNA  
 <213> Rattus norvegicus

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 agcacgcacc cttctccgcc ttggttctcg ccgcgcccc tactctcggg atacttggga 180  
 ggggacgcgc gggcaccgtc gctgctagac ggccgcg atg gcg ccg gcg gcc ggc 235  
 Met Ala Pro Ala Ala Gly  
 1 5  
 gcg tgt gct ggg gcg cct gac tcc cac cca gct acc gtg gtc ttc gtg 283  
 Ala Cys Ala Gly Ala Pro Asp Ser His Pro Ala Thr Val Val Phe Val  
 10 15 20  
 tgt ctc ttt ctc atc att ttc tgc cca gac cct gcc agt gcc atc cag 331  
 Cys Leu Phe Leu Ile Ile Phe Cys Pro Asp Pro Ala Ser Ala Ile Gln  
 25 30 35  
 gtg act gtg tct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg 379  
 Val Thr Val Ser Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val  
 40 45 50  
 acc ctg ccc tgc acc tat cag atg agc aac act ctc aca gtc ccc atc 427  
 Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Val Pro Ile  
 55 60 65 70  
 gtg atc tgg aag tac aag tca ttc tgc cgg gac cgt att gcc gat gcc 475  
 Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala  
 75 80 85  
 ttc tct cct gcc agt gtg gac aac cag cta aat gcc cag ttg gca gct 523  
 Phe Ser Pro Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala  
 90 95 100  
 ggc aac ccc ggc tac aac ccc tat gtg gag tgc cag gac agt gta cgc 571  
 Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg  
 105 110 115  
 act gtc agg gtg gtg gcc acc aaa cag ggc aat gcg gtg acc ctg gga 619  
 Thr Val Arg Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly  
 120 125 130  
 gac tac tac caa ggc agg agg atc acc ata aca gga aat gct gac ctg 667  
 Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu  
 135 140 145 150  
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 Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser  
 155 160 165  
 gtg gtc tcg gcc caa gat ctg gat gga aac aac gag gcg tac gca gag 763  
 Val Val Ser Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu  
 170 175 180  
 ctc atc gtc ctt gat tgg ctc ttt gtg gtc gtg gtc tgc ctg gcg agc 811  
 Leu Ile Val Leu Asp Trp Leu Phe Val Val Val Val Cys Leu Ala Ser  
 185 190 195  
 ctc ctc ctc ttc ctc ctc ctg ggc atc tgc tgg tgc cag tgc tgt cct 859  
 Leu Leu Leu Phe Leu Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro  
 200 205 210  
 cac acc tgc tgc tgc tat gtc cga tgt ccc tgc tgc cca gac aag tgc 907  
 His Thr Cys Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys  
 215 220 225 230  
 tgt tgc cct gag gct ctt tat gct gct ggc aaa gca gcc acc tca ggt 955  
 Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly  
 235 240 245  
 gtc ccg agc atc tat gcc ccc agc atc tat acc cac ctc tca cct gcc 1003  
 Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu Ser Pro Ala  
 250 255 260  
 aag acc cca cca cct ccg cct gcc atg att ccc atg ggc cct ccc tat 1051  
 Lys Thr Pro Pro Pro Pro Pro Ala Met Ile Pro Met Gly Pro Pro Tyr



265	270	275	
ggg tac cct gga gac ttt gac aga cat agc tca gtt ggt ggc cac agc			1099
Gly Tyr Pro Gly Asp Phe Asp Arg His Ser Ser Val Gly Gly His Ser			
280	285	290	
tcc caa gta ccc ctg ctg cgt gac gtg gat ggc agt gta tct tca gaa			1147
Ser Gln Val Pro Leu Arg Asp Val Asp Gly Ser Val Ser Ser Glu			
295	300	305	310
gta cga agt ggc tac agg atc cag gct aac cag caa gat gac tcc atg			1195
Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln Gln Asp Asp Ser Met			
315	320	325	
agg gtc cta tac tat atg gag aaa gag cta gcc aac ttt gac cct tcc			1243
Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser			
330	335	340	
cga cct ggc cct ccc aat ggc aga gtg gaa cgg gcc atg agt gaa gta			1291
Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val			
345	350	355	
acc tcc ctc cat gaa gat gac tgg cga tcg agg cct tcc agg gct cct			1339
Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro			
360	365	370	
gcc ctc acc ccc atc agg gat gag gag tgg aat cgc cac tcc cca cag			1387
Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Gln			
375	380	385	390
agt ccc aga aca tgg gag cag gaa ccc ctt caa gaa caa cca agg ggt			1435
Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly			
395	400	405	
ggt tgg ggg tct gga cgc cct cgg gcc cgc tct gtg gat gct cta gat			1483
Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp			
410	415	420	
gat atc aac cgg cct ggc tcc act gaa tca gga cgg tct tct ccc cca			1531
Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro			
425	430	435	
agt agt gga cgg aga gga cgg gcc tat gca cct cca aga agt cgc agc			1579
Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser			
440	445	450	
cgg gat gac ctc tat gac ccg gac gat cct agg gac ttg cca cat tcc			1627
Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser			
455	460	465	470
cga gat ccc cac tat tat gac gac atc agg tct aga gat cca cgt gct			1675
Arg Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser Arg Asp Pro Arg Ala			
475	480	485	
gac ccc aga tcc cgt cag cga tcc cga gat cct cgg gat gct ggc ttc			1723
Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro Arg Asp Ala Gly Phe			
490	495	500	
agg tca agg gac cct cag tat gat ggg cga cta tta gaa gag gct tta			1771
Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu			
505	510	515	
aag aaa aag ggg tcg ggc gag aga agg agg gtt tac agg gag gaa gaa			1819
Lys Lys Lys Gly Ser Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu			
520	525	530	
gag gaa gag gag ggc caa tac ccc cca gca cct cca cct tac tca gag			1867
Glu Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro Pro Tyr Ser Glu			
535	540	545	550
act gac tcg cag gcc tca cgg gag agg agg ctg aaa aag aat ttg gcc			1915
Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala			
555	560	565	
ctg agt cgg gaa agt tta gtc gtc tga tccacgtttt gtatgtagct			1962
Leu Ser Arg Glu Ser Leu Val Val *			
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taatcacaaa aaaaaaaaa			2040

<210> 11  
<211> 574

<212> PRT

<213> Rattus norvegicus

<400> 11

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Ala	Thr	Val	Val	Phe	Val	Cys	Leu	Phe	Leu	Ile	Ile	Phe	Cys	Pro	Asp
		20					25					30			
Pro	Ala	Ser	Ala	Ile	Gln	Val	Thr	Val	Ser	Asp	Pro	Tyr	His	Val	Val
		35				40					45				
Ile	Leu	Phe	Gln	Pro	Val	Thr	Leu	Pro	Cys	Thr	Tyr	Gln	Met	Ser	Asn
	50					55					60				
Thr	Leu	Thr	Val	Pro	Ile	Val	Ile	Trp	Lys	Tyr	Lys	Ser	Phe	Cys	Arg
65				70						75					80
Asp	Arg	Ile	Ala	Asp	Ala	Phe	Ser	Pro	Ala	Ser	Val	Asp	Asn	Gln	Leu
			85					90					95		
Asn	Ala	Gln	Leu	Ala	Ala	Gly	Asn	Pro	Gly	Tyr	Asn	Pro	Tyr	Val	Glu
		100					105					110			
Cys	Gln	Asp	Ser	Val	Arg	Thr	Val	Arg	Val	Val	Ala	Thr	Lys	Gln	Gly
	115					120					125				
Asn	Ala	Val	Thr	Leu	Gly	Asp	Tyr	Tyr	Gln	Gly	Arg	Arg	Ile	Thr	Ile
	130				135					140					
Thr	Gly	Asn	Ala	Asp	Leu	Thr	Phe	Glu	Gln	Thr	Ala	Trp	Gly	Asp	Ser
145				150					155						160
Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser	Ala	Gln	Asp	Leu	Asp	Gly	Asn
			165					170					175		
Asn	Glu	Ala	Tyr	Ala	Glu	Leu	Ile	Val	Leu	Asp	Trp	Leu	Phe	Val	Val
		180					185						190		
Val	Val	Cys	Leu	Ala	Ser	Leu	Leu	Leu	Phe	Leu	Leu	Leu	Gly	Ile	Cys
	195					200					205				
Trp	Cys	Gln	Cys	Cys	Pro	His	Thr	Cys	Cys	Cys	Tyr	Val	Arg	Cys	Pro
	210				215						220				
Cys	Cys	Pro	Asp	Lys	Cys	Cys	Cys	Pro	Glu	Ala	Leu	Tyr	Ala	Ala	Gly
225				230					235						240
Lys	Ala	Ala	Thr	Ser	Gly	Val	Pro	Ser	Ile	Tyr	Ala	Pro	Ser	Ile	Tyr
			245					250					255		
Thr	His	Leu	Ser	Pro	Ala	Lys	Thr	Pro	Pro	Pro	Pro	Pro	Ala	Met	Ile
		260					265						270		
Pro	Met	Gly	Pro	Pro	Tyr	Gly	Tyr	Pro	Gly	Asp	Phe	Asp	Arg	His	Ser
	275					280					285				
Ser	Val	Gly	Gly	His	Ser	Ser	Gln	Val	Pro	Leu	Leu	Arg	Asp	Val	Asp
	290				295					300					
Gly	Ser	Val	Ser	Ser	Glu	Val	Arg	Ser	Gly	Tyr	Arg	Ile	Gln	Ala	Asn
305				310					315						320
Gln	Gln	Asp	Asp	Ser	Met	Arg	Val	Leu	Tyr	Tyr	Met	Glu	Lys	Glu	Leu
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Ala	Asn	Phe	Asp	Pro	Ser	Arg	Pro	Gly	Pro	Pro	Asn	Gly	Arg	Val	Glu
		340					345					350			
Arg	Ala	Met	Ser	Glu	Val	Thr	Ser	Leu	His	Glu	Asp	Asp	Trp	Arg	Ser
	355					360					365				
Arg	Pro	Ser	Arg	Ala	Pro	Ala	Leu	Thr	Pro	Ile	Arg	Asp	Glu	Glu	Trp
	370				375						380				
Asn	Arg	His	Ser	Pro	Gln	Ser	Pro	Arg	Thr	Trp	Glu	Gln	Glu	Pro	Leu
385				390					395						400
Gln	Glu	Gln	Pro	Arg	Gly	Gly	Trp	Gly	Ser	Gly	Arg	Pro	Arg	Ala	Arg
			405					410					415		
Ser	Val	Asp	Ala	Leu	Asp	Asp	Ile	Asn	Arg	Pro	Gly	Ser	Thr	Glu	Ser
		420					425					430			
Gly	Arg	Ser	Ser	Pro	Pro	Ser	Ser	Gly	Arg	Arg	Gly	Arg	Ala	Tyr	Ala
	435					440					445				
Pro	Pro	Arg	Ser	Arg	Ser	Arg	Asp	Asp	Leu	Tyr	Asp	Pro	Asp	Asp	Pro
	450				455						460				
Arg	Asp	Leu	Pro	His	Ser	Arg	Asp	Pro	His	Tyr	Tyr	Asp	Asp	Ile	Arg

465		470		475		480
Ser Arg Asp Pro Arg	Ala Asp Pro Arg	Ser Arg Gln Arg	Ser Arg Asp			
	485	490	495			
Pro Arg Asp Ala Gly	Phe Arg Ser Arg	Pro Gln Tyr Asp	Gly Arg			
	500	505	510			
Leu Leu Glu Glu Ala	Leu Lys Lys Lys Gly	Ser Gly Glu Arg	Arg Arg			
	515	520	525			
Val Tyr Arg Glu Glu	Glu Glu Glu Glu Gly	Gln Tyr Pro Pro	Ala			
	530	535	540			
Pro Pro Pro Tyr Ser	Glu Thr Asp Ser Gln	Ala Ser Arg Glu	Arg Arg			
	545	550	555			560
Leu Lys Lys Asn Leu	Ala Leu Ser Arg	Glu Ser Leu Val	Val			
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<210> 12  
 <211> 1893  
 <212> DNA  
 <213> Rattus norvegicus

<400> 12

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agcacgcacc cttctccgcc ttggttctcg ccgcgcccc tactctcggg atacttgga	180
ggggacgcgc gggcaccgtc gctgctagac ggccgcg atg gcg ccg gcg gcc ggc	235
Met Ala Pro Ala Ala Gly	
1 5	
gcg tgt gct ggg gcg cct gac tcc cac cca gct acc gtg gtc ttc gtg	283
Ala Cys Ala Gly Ala Pro Asp Ser His Pro Ala Thr Val Val Phe Val	
10 15 20	
tgt ctc ttt ctc atc att ttc tgc cca gac cct gcc agt gcc atc cag	331
Cys Leu Phe Leu Ile Ile Phe Cys Pro Asp Pro Ala Ser Ala Ile Gln	
25 30 35	
gtg act gtg tct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg	379
Val Thr Val Ser Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val	
40 45 50	
acc ctg ccc tgc acc tat cag atg agc aac act ctc aca gtc ccc atc	427
Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Val Pro Ile	
55 60 65 70	
gtg atc tgg aag tac aag tca ttc tgc cgg gac cgt att gcc gat gcc	475
Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala	
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ttc tct cct gcc agt gtg gac aac cag cta aat gcc cag ttg gca gct	523
Phe Ser Pro Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala	
90 95 100	
ggc aac ccc ggc tac aac ccc tat gtg gag tgc cag gac agt gta cgc	571
Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg	
105 110 115	
act gtc agg gtg gtg gcc acc aaa cag ggc aat gcg gtg acc ctg gga	619
Thr Val Arg Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly	
120 125 130	
gac tac tac caa ggc agg agg atc acc ata aca gga aat gct gac ctg	667
Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu	
135 140 145 150	
acc ttc gag cag aca gcc tgg gga gac agt gga gtg tat tac tgc tct	715
Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser	
155 160 165	
gtg gtc tcg gcc caa gat ctg gat gga aac aac gag gcg tac gca gag	763
Val Val Ser Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu	
170 175 180	
ctc atc gtc ctt gtt tat gct gct ggc aaa gca gcc acc tca ggt gtc	811
Leu Ile Val Leu Val Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val	
185 190 195	
ccg agc atc tat gcc ccc agc atc tat acc cac ctc tca cct gcc aag	859

Pro	Ser	Ile	Tyr	Ala	Pro	Ser	Ile	Tyr	Thr	His	Leu	Ser	Pro	Ala	Lys	
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Thr	Pro	Pro	Pro	Pro	Pro	Ala	Met	Ile	Pro	Met	Gly	Pro	Pro	Tyr	Gly	
215					220					225					230	
tac	cct	gga	gac	ttt	gac	aga	cat	agc	tca	gtt	ggg	ggc	cac	agc	tcc	955
Tyr	Pro	Gly	Asp	Phe	Asp	Arg	His	Ser	Ser	Val	Gly	Gly	His	Ser	Ser	
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caa	gta	ccc	ctg	ctg	cgt	gac	gtg	gat	ggc	agt	gta	tct	tca	gaa	gta	1003
Gln	Val	Pro	Leu	Leu	Arg	Asp	Val	Asp	Gly	Ser	Val	Ser	Ser	Glu	Val	
				250					255						260	
cga	agt	ggc	tac	agg	atc	cag	gct	aac	cag	caa	gat	gac	tcc	atg	agg	1051
Arg	Ser	Gly	Tyr	Arg	Ile	Gln	Ala	Asn	Gln	Gln	Asp	Asp	Ser	Met	Arg	
		265				270						275				
gtc	cta	tac	tat	atg	gag	aaa	gag	cta	gcc	aac	ttt	gac	cct	tcc	cga	1099
Val	Leu	Tyr	Tyr	Met	Glu	Lys	Glu	Leu	Ala	Asn	Phe	Asp	Pro	Ser	Arg	
				280		285						290				
cct	ggc	cct	ccc	aat	ggc	aga	gtg	gaa	cgg	gcc	atg	agt	gaa	gta	acc	1147
Pro	Gly	Pro	Pro	Asn	Gly	Arg	Val	Glu	Arg	Ala	Met	Ser	Glu	Val	Thr	
295				300						305					310	
tcc	ctc	cat	gaa	gat	gac	tgg	cga	tcg	agg	cct	tcc	agg	gct	cct	gcc	1195
Ser	Leu	His	Glu	Asp	Asp	Trp	Arg	Ser	Arg	Pro	Ser	Arg	Ala	Pro	Ala	
				315					320						325	
ctc	acc	ccc	atc	agg	gat	gag	gag	tgg	aat	cgc	cac	tcc	cca	cag	agt	1243
Leu	Thr	Pro	Ile	Arg	Asp	Glu	Glu	Trp	Asn	Arg	His	Ser	Pro	Gln	Ser	
				330					335						340	
ccc	aga	aca	tgg	gag	cag	gaa	ccc	ctt	caa	gaa	caa	cca	agg	ggg	ggg	1291
Pro	Arg	Thr	Trp	Glu	Gln	Glu	Pro	Leu	Gln	Glu	Gln	Pro	Arg	Gly	Gly	
				345			350					355				
tgg	ggg	tct	gga	cgc	cct	cgg	gcc	cgc	tct	gtg	gat	gct	cta	gat	gat	1339
Trp	Gly	Ser	Gly	Arg	Pro	Arg	Ala	Arg	Ser	Val	Asp	Ala	Leu	Asp	Asp	
	360				365						370					
atc	aac	cgg	cct	ggc	tcc	act	gaa	tca	gga	cgg	tct	tct	ccc	cca	agt	1387
Ile	Asn	Arg	Pro	Gly	Ser	Thr	Glu	Ser	Gly	Arg	Ser	Ser	Pro	Pro	Ser	
				380						385					390	
agt	gga	cgg	aga	gga	cgg	gcc	tat	gca	cct	cca	aga	agt	cgc	agc	cgg	1435
Ser	Gly	Arg	Arg	Gly	Arg	Ala	Tyr	Ala	Pro	Pro	Arg	Ser	Arg	Ser	Arg	
				395					400						405	
gat	gac	ctc	tat	gac	ccg	gac	gat	cct	agg	gac	ttg	cca	cat	tcc	cga	1483
Asp	Asp	Leu	Tyr	Asp	Pro	Asp	Asp	Pro	Arg	Asp	Leu	Pro	His	Ser	Arg	
				410				415							420	
gat	ccc	cac	tat	tat	gac	gac	atc	agg	tct	aga	gat	cca	cgt	gct	gac	1531
Asp	Pro	His	Tyr	Tyr	Asp	Asp	Ile	Arg	Ser	Arg	Asp	Pro	Arg	Ala	Asp	
				425			430								435	
ccc	aga	tcc	cgt	cag	cga	tcc	cga	gat	cct	cgg	gat	gct	ggc	ttc	agg	1579
Pro	Arg	Ser	Arg	Gln	Arg	Ser	Arg	Asp	Pro	Arg	Asp	Ala	Gly	Phe	Arg	
				440			445					450				
tca	agg	gac	cct	cag	tat	gat	ggg	cga	cta	tta	gaa	gag	gct	tta	aag	1627
Ser	Arg	Asp	Pro	Gln	Tyr	Asp	Gly	Arg	Leu	Leu	Glu	Glu	Ala	Leu	Lys	
				455		460				465					470	
aaa	aag	ggg	tcg	ggc	gag	aga	agg	agg	gtt	tac	agg	gag	gaa	gaa	gag	1675
Lys	Lys	Gly	Ser	Gly	Glu	Arg	Arg	Arg	Val	Tyr	Arg	Glu	Glu	Glu	Glu	
				475					480						485	
gaa	gag	gag	ggc	caa	tac	ccc	cca	gca	cct	cca	cct	tac	tca	gag	act	1723
Glu	Glu	Glu	Gly	Gln	Tyr	Pro	Pro	Ala	Pro	Pro	Pro	Tyr	Ser	Glu	Thr	
				490				495							500	
gac	tcg	cag	gcc	tca	cgg	gag	agg	agg	ctg	aaa	aag	aat	ttg	gcc	ctg	1771
Asp	Ser	Gln	Ala	Ser	Arg	Glu	Arg	Arg	Leu	Lys	Lys	Asn	Leu	Ala	Leu	
				505			510								515	
agt	cgg	gaa	agt	tta	gtc	gtc	tga	tccacgtttt	gtatgtagct	tttgtacttt						1825
Ser	Arg	Glu	Ser	Leu	Val	*										
				520			525									
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aaaaaaaa

1893

<210> 13  
 <211> 525  
 <212> PRT  
 <213> Rattus norvegicus

<400> 13  
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 35 40 45  
 Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn  
 50 55 60  
 Thr Leu Thr Val Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg  
 65 70 75 80  
 Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu  
 85 90 95  
 Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu  
 100 105 110  
 Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly  
 115 120 125  
 Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile  
 130 135 140  
 Thr Gly Asn Ala Asp Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser  
 145 150 155 160  
 Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn  
 165 170 175  
 Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Val Tyr Ala Ala Gly Lys  
 180 185 190  
 Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr  
 195 200 205  
 His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Ala Met Ile Pro  
 210 215 220  
 Met Gly Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp Arg His Ser Ser  
 225 230 235 240  
 Val Gly Gly His Ser Ser Gln Val Pro Leu Leu Arg Asp Val Asp Gly  
 245 250 255  
 Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln  
 260 265 270  
 Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala  
 275 280 285  
 Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg  
 290 295 300  
 Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg  
 305 310 315 320  
 Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn  
 325 330 335  
 Arg His Ser Pro Gln Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln  
 340 345 350  
 Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser  
 355 360 365  
 Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly  
 370 375 380  
 Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro  
 385 390 395 400  
 Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg  
 405 410 415  
 Asp Leu Pro His Ser Arg Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser  
 420 425 430  
 Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro

435	440	445
Arg Asp Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu		
450	455	460
Leu Glu Glu Ala Leu Lys Lys Lys Gly Ser Gly Glu Arg Arg Arg Val		
465	470	475
Tyr Arg Glu Glu Glu Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro		480
	485	490
Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu		495
	500	505
Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu Val Val		510
515	520	525

<210> 14  
 <211> 1886  
 <212> DNA  
 <213> Mus musculus

<400> 14

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Gly Ala Pro Gly Ser His Pro Ala Thr Thr Ile Phe Val Cys Leu Phe	
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ctc atc att tac tgc cca gac cgt gcc agt gcc atc cag gtg acc gtg	148
Leu Ile Ile Tyr Cys Pro Asp Arg Ala Ser Ala Ile Gln Val Thr Val	
30 35 40	
cct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg aca cta cac	196
Pro Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu His	
45 50 55	
tgc acc tac cag atg agc aat acc ctc aca gcc cct atc gtg atc tgg	244
Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Ala Pro Ile Val Ile Trp	
60 65 70	
aag tat aag tgc ttc tgt cgg gac cgt gtt gcc gac gcc ttc tcc cct	292
Lys Tyr Lys Ser Phe Cys Arg Asp Arg Val Ala Asp Ala Phe Ser Pro	
75 80 85	
gcc agc gtg gac aac cag ctc aac gcc cag ctg gcg gct ggc aac ccc	340
Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro	
90 95 100 105	
ggc tac aac ccc tat gtg gag tgc cag gac agc gta cgc act gtc agg	388
Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg	
110 115 120	
gtg gtg gcc acc aaa cag ggc aat gct gtg acc ctg gga gac tac tac	436
Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr	
125 130 135	
cag ggc agg aga atc acc atc aca gga aat gct ggc ctg acc ttc gag	484
Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Gly Leu Thr Phe Glu	
140 145 150	
cag acg gcc tgg gga gac agt gga gtg tat tac tgc tcc gtg gtc tca	532
Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser	
155 160 165	
gcc caa gat ctg gat ggg aac aac gag gcg tac gca gag ctc att gtc	580
Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val	
170 175 180 185	
ctt ggc agg acc tca gaa gcc cct gag ctc cta cct ggt ttt cgg gcg	628
Leu Gly Arg Thr Ser Glu Ala Pro Glu Leu Leu Pro Gly Phe Arg Ala	
190 195 200	
ggg ccc ttg gaa gat tgg ctc ttt gtg gtc gtg gtc tgc ctg gca agc	676
Gly Pro Leu Glu Asp Trp Leu Phe Val Val Val Val Cys Leu Ala Ser	
205 210 215	
ctc ctc ttc ttc ctc ctc ctg ggc atc tgc tgg tgc cag tgc tgt ccc	724
Leu Leu Phe Phe Leu Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro	
220 225 230	

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His Thr Cys Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys	
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tgt tgc cct gag gcc ctt tat gct gct ggc aaa gca gcc acc tca ggt	820
Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly	
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Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu Ser Pro Ala	
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Lys Thr Pro Pro Pro Pro Pro Ala Met Ile Pro Met Arg Pro Pro Tyr	
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Gly Tyr Pro Gly Asp Phe Asp Arg Thr Ser Ser Val Gly Gly His Ser	
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Ser Gln Val Pro Leu Leu Arg Glu Val Asp Gly Ser Val Ser Ser Glu	
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Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln Gln Asp Asp Ser Met	
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Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser	
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Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val	
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Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro	
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Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Arg	
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Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly	
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Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp	
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Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro	
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Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser	
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Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser	
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Arg Asp Pro His Tyr Tyr Asp Asp Leu Arg Ser Arg Asp Pro Arg Ala	
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Asp Pro Arg Ser Arg Gln Arg Ser His Asp Pro Arg Asp Ala Gly Phe	
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Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu	
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Lys Lys Lys Gly Ala Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu	
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Glu Glu Glu Glu Glu Gly His Tyr Pro Pro Ala Pro Pro Pro Tyr Ser	
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Gly Ala Pro Gly Ser His Pro Ala Thr Thr Ile Phe Val Cys Leu Phe  
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Pro Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu His  
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Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Ala Pro Ile Val Ile Trp  
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Lys Tyr Lys Ser Phe Cys Arg Asp Arg Val Ala Asp Ala Phe Ser Pro  
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Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro  
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Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg  
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Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr  
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Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Gly Leu Thr Phe Glu  
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Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser  
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gcc caa gat ctg gat ggg aac aac gag gcg tac gca gag ctc att gtc 580  
Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val  
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Leu Asp Trp Leu Phe Val Val Val Val Cys Leu Ala Ser Leu Leu Phe  
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Phe Leu Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr Cys  
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tgc tgc tat gtc aga tgt ccc tgc tgc cca gac aag tgc tgt tgc cct 724  
Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Cys Pro  
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gag gcc ctt tat gct gct ggc aaa gca gcc acc tca ggt gtg cca agc 772  
Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser  
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Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu Ser Pro Ala Lys Thr Pro	
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Pro Pro Pro Pro Ala Met Ile Pro Met Arg Pro Pro Tyr Gly Tyr Pro	
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Gly Asp Phe Asp Arg Thr Ser Ser Val Gly Gly His Ser Ser Gln Val	
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Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Pro Gly	
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Pro Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu	
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His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro Ala Leu Thr	
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Pro Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Arg Ser Pro Arg	
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Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly Gly Trp Gly	
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Ser Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Ile Asn	
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Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro Ser Ser Gly	
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Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser Arg Asp Asp	
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Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser Arg Asp Pro	
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His Tyr Tyr Asp Asp Leu Ser Arg Asp Pro Arg Ala Asp Pro Arg	
475 480 485	
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Ser Arg Gln Arg Ser His Asp Pro Arg Asp Ala Gly Phe Arg Ser Arg	
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Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu Lys Lys Lys	
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Gly Ala Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu Glu Glu Glu	
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gag gag ggc cac tat ccc cca gca cct ccg cct tac tct gag act gac	1684
Glu Glu Gly His Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp	
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tcg cag gcc tcg agg gag cgg agg atg aaa aag aat ttg gcc ctg agt	1732
Ser Gln Ala Ser Arg Glu Arg Arg Met Lys Lys Asn Leu Ala Leu Ser	
555 560 565	
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Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His							
	300		305		310		
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Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro							
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Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Arg Ser Pro Arg Thr							
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tgg gag cag gaa ccc ctt caa gaa cag cca agg ggt ggt tgg ggg tct							1108
Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser							
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Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Ile Asn Arg							
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Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro Ser Ser Gly Arg							
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Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu							
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Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser Arg Asp Pro His							
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tat tat gat gat ttg agg tct agg gat cca cgt gct gac ccc aga tcc							1348
Tyr Tyr Asp Asp Leu Arg Ser Arg Asp Pro Arg Ala Asp Pro Arg Ser							
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cgt cag cga tcc cac gat cct cgg gat gct ggc ttc agg tca cgg gac							1396
Arg Gln Arg Ser His Asp Pro Arg Asp Ala Gly Phe Arg Ser Arg Asp							
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cct cag tat gat ggg cga ctc tta gaa gag gct tta aag aaa aaa ggg							1444
Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu Lys Lys Lys Gly							
	460		465		470		
gct ggg gag aga aga cgc gtt tac agg gag gaa gaa gaa gaa gag							1492
Ala Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu Glu Glu Glu Glu							
	475		480		485		
gag ggc cac tat ccc cca gca cct ccg cct tac tct gag act gac tcg							1540
Glu Gly His Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser							
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cag gcc tcg agg gag cgg agg atg aaa aag aat ttg gcc ctg agt cgg							1588
Gln Ala Ser Arg Glu Arg Arg Met Lys Lys Asn Leu Ala Leu Ser Arg							
	510		515		520		
gaa agt tta gtc tga tcccacgttt tggtatgtag cttttatact							1636
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<211> 594

<212> PRT

<213> Mus musculus

<400> 17

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Arg Ala Ser Ala Ile Gln Val Thr Val Pro Asp Pro Tyr His Val Val							
	35	40	45				
Ile Leu Phe Gln Pro Val Thr Leu His Cys Thr Tyr Gln Met Ser Asn							
	50	55	60				
Thr Leu Thr Ala Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg							

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Asp	Arg	Val	Ala	Asp	Ala	Phe	Ser	Pro	Ala	Ser	Val	Asp	Asn	Gln
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Asn	Ala	Gln	Leu	Ala	Ala	Gly	Asn	Pro	Gly	Tyr	Asn	Pro	Tyr	Val
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Cys	Gln	Asp	Ser	Val	Arg	Thr	Val	Arg	Val	Val	Ala	Thr	Lys	Gln
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Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser	Ala	Gln	Asp	Leu	Asp	Gly
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Asn	Glu	Ala	Tyr	Ala	Glu	Leu	Ile	Val	Leu	Gly	Arg	Thr	Ser	Glu
				180				185					190	Ala
Pro	Glu	Leu	Leu	Pro	Gly	Phe	Arg	Ala	Gly	Pro	Leu	Glu	Asp	Trp
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225					230					235				240
Arg	Cys	Pro	Cys	Cys	Pro	Asp	Lys	Cys	Cys	Cys	Pro	Glu	Ala	Leu
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Ala	Ala	Gly	Lys	Ala	Ala	Thr	Ser	Gly	Val	Pro	Ser	Ile	Tyr	Ala
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Ser	Ile	Tyr	Thr	His	Leu	Ser	Pro	Ala	Lys	Thr	Pro	Pro	Pro	Pro
		275					280					285		
Ala	Met	Ile	Pro	Met	Arg	Pro	Pro	Tyr	Gly	Tyr	Pro	Gly	Asp	Phe
		290				295					300			Asp
Arg	Thr	Ser	Ser	Val	Gly	Gly	His	Ser	Ser	Gln	Val	Pro	Leu	Leu
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Glu	Val	Asp	Gly	Ser	Val	Ser	Ser	Glu	Val	Arg	Ser	Gly	Tyr	Arg
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Gln	Ala	Asn	Gln	Gln	Asp	Asp	Ser	Met	Arg	Val	Leu	Tyr	Tyr	Met
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Lys	Glu	Leu	Ala	Asn	Phe	Asp	Pro	Ser	Arg	Pro	Gly	Pro	Pro	Asn
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Arg	Val	Glu	Arg	Ala	Met	Ser	Glu	Val	Thr	Ser	Leu	His	Glu	Asp
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Trp	Arg	Ser	Arg	Pro	Ser	Arg	Ala	Pro	Ala	Leu	Thr	Pro	Ile	Arg
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Glu	Glu	Trp	Asn	Arg	His	Ser	Pro	Arg	Ser	Pro	Arg	Thr	Trp	Glu
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Glu	Pro	Leu	Gln	Glu	Gln	Pro	Arg	Gly	Gly	Trp	Gly	Ser	Gly	Arg
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Arg	Ala	Arg	Ser	Val	Asp	Ala	Leu	Asp	Asp	Ile	Asn	Arg	Pro	Gly
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Thr	Glu	Ser	Gly	Arg	Ser	Ser	Pro	Pro	Ser	Ser	Gly	Arg	Arg	Gly
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Ala	Tyr	Ala	Pro	Pro	Arg	Ser	Arg	Ser	Arg	Asp	Asp	Leu	Tyr	Asp
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Asp	Leu	Arg	Ser	Arg	Asp	Pro	Arg	Ala	Asp	Pro	Arg	Ser	Arg	Gln
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Ser	His	Asp	Pro	Arg	Asp	Ala	Gly	Phe	Arg	Ser	Arg	Asp	Pro	Gln
		515				520						525		Tyr
Asp	Gly	Arg	Leu	Leu	Glu	Glu	Ala	Leu	Lys	Lys	Lys	Gly	Ala	Gly
		530				535					540			Glu
Arg	Arg	Arg	Val	Tyr	Arg	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Gly
545					550				555					His
Tyr	Pro	Pro	Ala	Pro	Pro	Pro	Tyr	Ser	Glu	Thr	Asp	Ser	Gln	Ala
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Val Val

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Ile Leu Phe Gln Pro Val Thr Leu His Cys Thr Tyr Gln Met Ser Asn  
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Asp Arg Val Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu  
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Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly  
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Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn  
165 170 175  
Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp Trp Leu Phe Val Val  
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Val Val Cys Leu Ala Ser Leu Leu Phe Phe Leu Leu Leu Gly Ile Cys  
195 200 205  
Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys Tyr Val Arg Cys Pro  
210 215 220  
Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly  
225 230 235 240  
Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr  
245 250 255  
Thr His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Pro Ala Met Ile  
260 265 270  
Pro Met Arg Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp Arg Thr Ser  
275 280 285  
Ser Val Gly Gly His Ser Ser Gln Val Pro Leu Leu Arg Glu Val Asp  
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Gly Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn  
305 310 315 320  
Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu  
325 330 335  
Ala Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu  
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Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser  
355 360 365  
Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp  
370 375 380  
Asn Arg His Ser Pro Arg Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu  
385 390 395 400  
Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg  
405 410 415  
Ser Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser

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Arg	Asp	Leu	Pro	His	Ser	Arg	Asp	Pro	His	Tyr	Tyr	Asp	Asp	Leu	Arg				
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<400> 19

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Arg	Ala	Ser	Ala	Ile	Gln	Val	Thr	Val	Pro	Asp	Pro	Tyr	His	Val	Val				
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Ile	Leu	Phe	Gln	Pro	Val	Thr	Leu	His	Cys	Thr	Tyr	Gln	Met	Ser	Asn				
	50				55						60								
Thr	Leu	Thr	Ala	Pro	Ile	Val	Ile	Trp	Lys	Tyr	Lys	Ser	Phe	Cys	Arg				
65					70				75					80					
Asp	Arg	Val	Ala	Asp	Ala	Phe	Ser	Pro	Ala	Ser	Val	Asp	Asn	Gln	Leu				
			85					90					95						
Asn	Ala	Gln	Leu	Ala	Ala	Gly	Asn	Pro	Gly	Tyr	Asn	Pro	Tyr	Val	Glu				
			100				105					110							
Cys	Gln	Asp	Ser	Val	Arg	Thr	Val	Arg	Val	Val	Ala	Thr	Lys	Gln	Gly				
	115					120					125								
Asn	Ala	Val	Thr	Leu	Gly	Asp	Tyr	Tyr	Gln	Gly	Arg	Arg	Ile	Thr	Ile				
	130				135				140										
Thr	Gly	Asn	Ala	Gly	Leu	Thr	Phe	Glu	Gln	Thr	Ala	Trp	Gly	Asp	Ser				
145					150				155					160					
Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser	Ala	Gln	Asp	Leu	Asp	Gly	Asn				
			165					170						175					
Asn	Glu	Ala	Tyr	Ala	Glu	Leu	Ile	Val	Leu	Val	Tyr	Ala	Ala	Gly	Lys				
		180						185				190							
Ala	Ala	Thr	Ser	Gly	Val	Pro	Ser	Ile	Tyr	Ala	Pro	Ser	Ile	Tyr	Thr				
		195				200						205							
His	Leu	Ser	Pro	Ala	Lys	Thr	Pro	Pro	Pro	Pro	Pro	Pro	Ala	Met	Ile	Pro			
	210					215						220							
Met	Arg	Pro	Pro	Tyr	Gly	Tyr	Pro	Gly	Asp	Phe	Asp	Arg	Thr	Ser	Ser				
225				230					235					240					
Val	Gly	Gly	His	Ser	Ser	Gln	Val	Pro	Leu	Leu	Arg	Glu	Val	Asp	Gly				
			245					250						255					
Ser	Val	Ser	Ser	Glu	Val	Arg	Ser	Gly	Tyr	Arg	Ile	Gln	Ala	Asn	Gln				
		260						265					270						
Gln	Asp	Asp	Ser	Met	Arg	Val	Leu	Tyr	Tyr	Met	Glu	Lys	Glu	Leu	Ala				
	275					280						285							
Asn	Phe	Asp	Pro	Ser	Arg	Pro	Gly	Pro	Pro	Asn	Gly	Arg	Val	Glu	Arg				

290	295	300
Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg		
305	310	315
Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn		320
	325	330
Arg His Ser Pro Arg Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln		335
	340	345
Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser		350
	355	360
Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly		365
	370	375
Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro		380
385	390	395
Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg		400
	405	410
Asp Leu Pro His Ser Arg Asp Pro His Tyr Tyr Asp Asp Leu Arg Ser		415
	420	425
Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser His Asp Pro		430
	435	440
Arg Asp Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu		445
	450	455
Leu Glu Glu Ala Leu Lys Lys Lys Gly Ala Gly Glu Arg Arg Arg Val		460
465	470	475
Tyr Arg Glu Glu Glu Glu Glu Glu Glu Gly His Tyr Pro Pro Ala		480
	485	490
Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg		495
	500	505
Met Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu Val Val		510
	515	520
		525

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<220>  
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 <222> 1..18  
 <223> sequencing oligonucleotide PrimerPU

<400> 20  
 tgtaaaacga cggccagt

18

<210> 21  
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<220>  
 <221> misc\_binding  
 <222> 1..18  
 <223> sequencing oligonucleotide PrimerRP

<400> 21  
 caggaaacag ctatgacc

18

<210> 22  
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<220>  
 <223> oligonucleotide sense primer

<400> 22  
 ctacaacccc tacgtcgagt 20  
  
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 <223> oligonucleotide anti sense primer  
  
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 aggcggagat cgccagtcgt 20  
  
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 <400> 24  
 cctttgtcca cgtcgtttac gtc 24  
  
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 tcacagcggt gccctgcttg 20  
  
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 <400> 26  
 ttactgctcc gtggtctcag c 21  
  
 <210> 27  
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 <400> 27  
 agctactcct gtcaacgtct cc 22  
  
 <210> 28  
 <211> 167  
 <212> PRT  
 <213> Bos taurus



<400> 28

Met Arg Cys Gly Pro Leu Tyr Arg Phe Leu Trp Leu Trp Pro Tyr Leu  
1 5 10 15  
Ser Tyr Val Glu Ala Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys  
20 25 30  
Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr  
35 40 45  
Gln Ser Val Ser Ser Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
50 55 60  
Gly Leu His Pro Leu Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
65 70 75 80  
Ile Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Arg Asn Val Val Gln  
85 90 95  
Ile Ser Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
100 105 110  
Ala Ser Lys Ser Cys Pro Leu Pro Gln Val Arg Ala Leu Glu Ser Leu  
115 120 125  
Glu Ser Leu Gly Val Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
130 135 140  
Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Met Leu Arg Gln  
145 150 155 160  
Leu Asp Leu Ser Pro Gly Cys  
165

<210> 29

<211> 146

<212> PRT

<213> Canis familiaris

<400> 29

Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
1 5 10 15  
Ile Val Ala Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
20 25 30  
Lys Gln Arg Val Ala Gly Leu Asp Phe Ile Pro Gly Leu Gln Pro Val  
35 40 45  
Leu Ser Leu Ser Arg Met Asp Gln Thr Leu Ala Ile Tyr Gln Gln Ile  
50 55 60  
Leu Asn Ser Leu His Ser Arg Asn Val Val Gln Ile Ser Asn Asp Leu  
65 70 75 80  
Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Ser Ser Lys Ser Cys  
85 90 95  
Pro Leu Pro Arg Ala Arg Gly Leu Glu Thr Phe Glu Ser Leu Gly Gly  
100 105 110  
Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
115 120 125  
Leu Gln Ala Ala Leu Gln Asp Met Leu Arg Arg Leu Asp Leu Ser Pro  
130 135 140  
Gly Cys  
145

<210> 30

<211> 163

<212> PRT

<213> Gallus gallus

<400> 30

Met Cys Trp Arg Pro Leu Cys Arg Leu Trp Ser Tyr Leu Val Tyr Val  
1 5 10 15  
Gln Ala Val Pro Cys Gln Ile Phe Gln Asp Asp Thr Lys Thr Leu Ile  
20 25 30  
Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Ser Val Ser





Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Gln  
 145 150 155 160  
 Leu Asp Val Ser Pro Glu Cys  
 165

<210> 35  
 <211> 146  
 <212> PRT  
 <213> Ovus aries

<400> 35  
 Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
 1 5 10 15  
 Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
 20 25 30  
 Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Leu  
 35 40 45  
 Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala Ile Tyr Gln Gln Ile  
 50 55 60  
 Leu Ala Ser Leu Pro Ser Arg Asn Val Ile Gln Ile Ser Asn Asp Leu  
 65 70 75 80  
 Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Ala Ser Lys Ser Cys  
 85 90 95  
 Pro Leu Pro Gln Val Arg Ala Leu Glu Ser Leu Glu Ser Leu Gly Val  
 100 105 110  
 Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
 115 120 125  
 Leu Gln Gly Ser Leu Gln Asp Met Leu Arg Gln Leu Asp Leu Ser Pro  
 130 135 140  
 Gly Cys  
 145

<210> 36  
 <211> 146  
 <212> PRT  
 <213> Pan troglodytes

<400> 36  
 Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
 1 5 10 15  
 Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
 20 25 30  
 Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile  
 35 40 45  
 Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile  
 50 55 60  
 Leu Thr Ser Met Pro Ser Arg Asn Met Ile Gln Ile Ser Asn Asp Leu  
 65 70 75 80  
 Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
 85 90 95  
 His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly  
 100 105 110  
 Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
 115 120 125  
 Leu Gln Gly Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro  
 130 135 140  
 Gly Cys  
 145

<210> 37  
 <211> 146  
 <212> PRT  
 <213> Pongo pygmaeus

<400> 37

Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
1 5 10 15  
Val Ile Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
20 25 30  
Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile  
35 40 45  
Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile  
50 55 60  
Leu Thr Ser Met Pro Ser Arg Asn Val Ile Gln Ile Ser Asn Asp Leu  
65 70 75 80  
Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
85 90 95  
His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Arg Leu Gly Gly  
100 105 110  
Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
115 120 125  
Leu Gln Arg Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro  
130 135 140  
Gly Cys  
145

<210> 38

<211> 167

<212> PRT

<213> Rattus norvegicus

<400> 38

Met Cys Trp Arg Pro Leu Cys Arg Phe Leu Trp Leu Trp Ser Tyr Leu  
1 5 10 15  
Ser Tyr Val Gln Ala Val Pro Ile His Lys Val Gln Asp Asp Thr Lys  
20 25 30  
Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr  
35 40 45  
Gln Ser Val Ser Ala Arg Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
50 55 60  
Gly Leu His Pro Ile Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
65 70 75 80  
Val Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Gln Asn Val Leu Gln  
85 90 95  
Ile Ala His Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
100 105 110  
Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr Arg Gly Leu Gln Lys Pro  
115 120 125  
Glu Ser Leu Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
130 135 140  
Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Gln  
145 150 155 160  
Leu Asp Leu Ser Pro Glu Cys  
165

<210> 39

<211> 167

<212> PRT

<213> Sus scrofa

<400> 39

Met Arg Cys Gly Pro Leu Cys Arg Phe Leu Trp Leu Trp Pro Tyr Leu  
1 5 10 15  
Ser Tyr Val Glu Ala Val Pro Ile Trp Arg Val Gln Asp Asp Thr Lys  
20 25 30  
Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Ser Asp Ile Ser His Met



<210> 45  
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<213> Homo sapiens

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Glu Lys Pro Asp  
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<210> 46  
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<400> 46  
Thr Pro Asp Ser Leu  
1 5

<210> 47  
<211> 9  
<212> PRT  
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<400> 47  
Gly Leu Gln Thr Leu Asp Ser Leu Gly  
1 5

<210> 48  
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<212> PRT  
<213> Homo sapiens

<400> 48  
Gly Gly Val Leu Glu  
1 5

<210> 49  
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<213> Homo sapiens

<400> 49  
Thr Pro Asp Ser Leu Gly  
1 5

<210> 50  
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<400> 50  
Ser Leu Gly Gly Val Leu Glu Ala Ser  
1 5

<210> 51  
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<400> 51  
Pro Glu Ser Leu Gly Gly  
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<210> 52  
<211> 6  
<212> PRT  
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<400> 52  
Pro Asp Ser Leu Gly Gly  
1 5

<210> 53  
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<400> 53  
Leu Gly Gly Val Leu Glu Ala  
1 5

<210> 54  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 54  
Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
1 5 10 15  
His Leu Pro Trp Ala Ser  
20

<210> 55  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 55  
Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys His Leu Pro Trp Ala  
1 5 10 15  
Ser Gly Leu Glu Thr Leu  
20

<210> 56  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 56  
Ala Phe Ser Lys Ser Cys His Leu Pro Trp Ala Ser Gly Leu Glu Thr  
1 5 10 15  
Leu Asp Ser Leu Gly Gly  
20

<210> 57  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 57  
Cys His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly  
1 5 10 15  
Gly Val Leu Glu Ala Ser  
20

<210> 58



<211> 18  
<212> PRT  
<213> Homo sapiens

<400> 58  
Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly Val  
1 5 10 15  
Leu Glu

<210> 59  
<211> 14  
<212> PRT  
<213> Homo sapiens

<400> 59  
Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly Val  
1 5 10

<210> 60  
<211> 21  
<212> PRT  
<213> Homo sapiens

<400> 60  
Ala Ser Gly Leu Glu Thr Asp Ser Leu Gly Gly Val Leu Glu Ala Ser  
1 5 10 15  
Gly Tyr Ser Thr Glu  
20

<210> 61  
<211> 10  
<212> PRT  
<213> Homo sapiens

<400> 61  
Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly  
1 5 10

<210> 62  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 62  
Thr Leu Asp Ser Leu Gly Gly Val Leu Glu Ala Ser Gly Tyr Ser Thr  
1 5 10 15  
Glu Val Val Ala Leu Ser  
20

<210> 63  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 63  
Gly Gly Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu  
1 5 10 15  
Ser Arg Gly Gln Gly Ser  
20

<210> 64  
<211> 22  
<212> PRT

<213> Mus musculus

<400> 64

Glu	Asn	Leu	Arg	Asp	Leu	Leu	His	Leu	Leu	Ala	Phe	Ser	Lys	Ser	Cys
1				5					10					15	
Ser	Leu	Pro	Gln	Thr	Ser										
				20											

<210> 65

<211> 22

<212> PRT

<213> Mus musculus

<400> 65

Leu	Leu	His	Leu	Leu	Ala	Phe	Ser	Lys	Ser	Cys	Ser	Leu	Pro	Gln	Thr
1				5					10					15	
Ser	Gly	Leu	Gln	Lys	Pro										
				20											

<210> 66

<211> 22

<212> PRT

<213> Mus musculus

<400> 66

Ala	Phe	Ser	Lys	Ser	Cys	Ser	Leu	Pro	Gln	Thr	Ser	Gly	Leu	Gln	Lys
1				5					10					15	
Pro	Glu	Ser	Leu	Asp	Gly										
				20											

<210> 67

<211> 22

<212> PRT

<213> Mus musculus

<400> 67

Cys	Ser	Leu	Pro	Gln	Thr	Ser	Gly	Leu	Gln	Lys	Pro	Glu	Ser	Leu	Asp
1				5					10					15	
Gly	Val	Leu	Glu	Ala	Ser										
				20											

<210> 68

<211> 18

<212> PRT

<213> Mus musculus

<400> 68

Leu	Pro	Gln	Thr	Ser	Gly	Leu	Gln	Lys	Pro	Glu	Ser	Leu	Asp	Gly	Val
1				5					10					15	
Leu	Glu														

<210> 69

<211> 14

<212> PRT

<213> Mus musculus

<400> 69

Gln	Thr	Ser	Gly	Leu	Gln	Lys	Pro	Glu	Ser	Leu	Asp	Gly	Val
1				5					10				

<210> 70

<211> 22

<212> PRT



<211> 20  
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 <400> 76  
 tcccacttcc gttccttgtc 20  
  
 <210> 77  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Probes endogenous/mutant  
  
 <400> 77  
 cctactccaa gtcmgctctg ttgcatt 27  
  
 <210> 78  
 <211> 67  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Chimeric oligonucleotides  
  
 <400> 78  
 gaccctgccc tgtacctacc taccagatgt tttaucugg uagggttcagg gcagggucgc 60  
 gcgtttt 67  
  
 <210> 79  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Forward Primer  
  
 <400> 79  
 gtggtgatcc tcttccagcc t 21  
  
 <210> 80  
 <211> 19  
 <212> DNA  
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 <223> oligonucleotide Reverse Primer  
  
 <400> 80  
 ccagatgacg atgggttgc 19  
  
 <210> 81  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Probes endogenous/mutant

<400> 81  
 accctgccct gwcctaccag atgac 25  
  
 <210> 82  
 <211> 68  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Chimeric oligonucleotides  
  
 <400> 82  
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 ttctgcgc 68  
  
 <210> 83  
 <211> 20  
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 <223> oligonucleotide Forward Primer  
  
 <400> 83  
 gagctcatcg tccttgggag 20  
  
 <210> 84  
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 <223> oligonucleotide Reverse Primer  
  
 <400> 84  
 agtcttctat gggccccgc 19  
  
 <210> 85  
 <211> 27  
 <212> DNA  
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 <220>  
 <223> oligonucleotide Probes endogenous/mutant  
  
 <400> 85  
 caccgactcg agamtggacc aaaagtc 27  
  
 <210> 86  
 <211> 68  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> oligonucleotide Chimeric oligonucleotides  
  
 <400> 86  
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 ttctgcgc 68  
  
 <210> 87  
 <211> 20  
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<213> Artificial Sequence

<220>  
<223> oligonucleotide Forward Primer

<400> 87  
acgcagagct catcgtcctt 20

<210> 88  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide Reverse Primer

<400> 88  
gatgcccagg aggaggaaga 20

<210> 89  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide Probes endogenous/mutant

<400> 89  
caacaccata ckgaccgacg gaa 23

<210> 90  
<211> 18  
<212> DNA  
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<220>  
<223> oligonucleotide mouse LSR specific primer

<400> 90  
acgcatggga atcatggc 18

<210> 91  
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<212> DNA  
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<220>  
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<400> 91  
taggggtgag cggcgggg 18

<210> 92  
<211> 21  
<212> DNA  
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<220>  
<223> oligonucleotide Zinc finger nuclotides of SEQID1

<220>  
<221> misc\_feature  
<222> 10..12

<223> n=a, g, c or t

<400> 92  
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<210> 93  
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<220>  
<223> oligonucleotide Zinc finger nuclotides of SEQID1

<220>  
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<223> n=a, g, c or t

<400> 93  
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<210> 94  
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<212> DNA  
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<220>  
<223> oligonucleotide Zinc finger nuclotides of SEQID1

<400> 94  
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<210> 95  
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<400> 95  
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<210> 96  
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<400> 96  
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<210> 97  
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<400> 97  
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<210> 98  
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<400> 98  
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<400> 99  
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<210> 100  
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<220>  
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 <223> n=a, g, c or t

<400> 100  
 aggggtgagn nncggggagg g 21

<210> 101  
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